

Amendment to the Claims

This listing of Claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Canceled)
2. (Currently Amended) An ultrasonic vibrator comprising:
a vibrating portion;
a side wall portion standing on a principal surface of said vibrating portion;
and
a vibrator body disposed on the principal surface of said vibrating portion inside said side wall portion to apply ultrasonic vibration to said vibrating portion, wherein a thin portion is formed at least on a part of a border between said vibrating portion and said side wall portion,
wherein the vibrating portion and the side wall portion are integrally formed as a box,
wherein the thin portion is formed by the principal surface of the vibrating portion, and wherein the opposite side, with respect to the thin portion, of the principal surface of the vibrating portion is planar, ~~and~~
wherein the thin portion is formed such that a portion of the side wall has a reduced width, and
wherein a thickness of the vibrating portion is the same as a thickness of the side plate.
3. (Canceled)

4. (Previously Presented) An ultrasonic vibrator according to Claim 2, wherein a thickness of said vibrating portion is within the range of $\lambda/2 \pm 0.3$ mm, where λ represents a wavelength inside said vibrating portion of ultrasonic vibration applied from said vibrator body.

5. (Canceled)

6. (Previously Presented) An ultrasonic vibrator according to Claim 2, wherein a frequency of the ultrasonic vibration is within the range of 20 kHz to 10 MHz.

7. (Canceled)

8. (Withdrawn) A wet-treatment nozzle to supply a treatment liquid for wet treatment of a workpiece toward the workpiece and to discharge waste treatment liquid after the wet treatment, said nozzle comprising:

a supply pipe having, at one end, an inlet to admit the treatment liquid;

a drain pipe having, at one end, an outlet to drain the waste liquid to the outside; and

a connecting portion facing the workpiece to connect other ends of said supply pipe and said drain pipe,

wherein said connecting portion has a first opening which opens to said supply pipe and a second opening which opens to said drain pipe,

wherein a treatment region for the wet treatment that is filled with the treatment liquid is formed in a space between opposing surfaces of said connecting portion and the workpiece by supplying the treatment liquid from said first opening toward the workpiece,

wherein said connecting portion includes an ultrasonic vibrator according to Claim 2 to apply ultrasonic vibration to the treatment liquid in said treatment region, and

wherein the waste liquid from said treatment region is guided from said second opening into said drain pipe and is drained through said outlet.

9. (Canceled)

10. (Withdrawn) A wet-treatment apparatus comprising:

a wet-treatment nozzle according to Claim 8; and

a nozzle and workpiece relatively moving means for cleaning the entire treatment region of a workpiece by relatively moving said wet-treatment nozzle and the workpiece along a surface of the workpiece.

11 – 13. (Canceled)

14. (Previously Presented) An ultrasonic vibrator according to Claim 2, wherein the thin portion is embedded in the side plate.